



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,386	05/16/2002	Martin Sagasser	DEBE:005US	2267

7590 12/09/2004

Steven L Highlander  
Fulbright & Jaworski  
Suite 2400  
600 Congress Avenue  
Austin, TX 78701

EXAMINER

KALLIS, RUSSELL

ART UNIT PAPER NUMBER

1638

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/030,386

Applicant(s)

SAGASSER ET AL.

Examiner

Russell Kallis

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 May 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-30 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-5, 8-12, 24-27 drawn to a method for modifying gene expression using a seed specific regulatory sequence operably linked to a gene of the phenyl propanoid metabolism.

Group II, claim(s) 1-4, 6, 8-12, 24-27 drawn to a method for modifying gene expression using a seed specific regulatory sequence operably linked to a gene expressing a gene product that is seed specific.

Group III, claim(s) 1-4, 7-12, 24-27 drawn to a method for modifying gene expression using a seed specific regulatory sequence operably linked to a gene of the general metabolism.

Group IV, claim(s) 13-22, 24-30 drawn to a method of increasing flavonoid content in a plant by transformation with SEQ ID NO: 2 or 4.

Group V, claim(s) 23, drawn to an amino acid sequence of SEQ ID NO: 3.

The inventions listed as Groups I-V do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The inventions of Groups I-V do not share a special technical feature because the special technical feature of a method for producing a plant with modified gene expression by transformation with a seed specific regulatory sequence operably linked to a nucleic acid sequence encoding a gene product is taught in the art. Burkhardt P. et al. The Plant Journal, 1997, Vol. 11 No. 5 pages 1071-1078 teach modified gene expression in the seeds of rice transformed with a phytoene synthase from daffodil operably linked to the seed specific promoter from rice Gt1; on page 1073 column 2 lines 17-20.

Art Unit: 1638

The claims of Groups I-IV are directed to independent and distinct nucleic acid sequences (i.e. genes) recognized in the art to each have a different core structure and different specific activities and would not be expected to behave in the same fashion (i.e. producing different products and phenotypes when transformed into a plant) and since separate consideration would be required for each gene, restriction into separate groups is proper (See MPEP, Annex B, Unity of Invention, part 1, section (f) Markush Practice).

Upon election of Group I, Applicant is required to elect a single nucleic acid sequence (i.e. gene) of the phenyl propanoid metabolism from the following:

- A : phenylalanine ammonia-lyase
- B : cinnamate 4-hydroxylase
- C : 4-coumarate-coA ligase
- D : chalcone synthase
- E : chalcone isomerase
- F : chalcone reductase
- G : flavanone 3-hydroxylase
- H: flavonoid-3'-hydroxylase
- I : flavonoid-3'5'-hydroxylase
- J : dihydroflavono-4-reductase
- K : leucoanthocyanidin reductase
- L : leucoanthocyanidin dioxygenase
- M : 3'-glucosyltransferase
- N : 5'-glucosyltransferase
- O : O-methyl transferase.

Upon election of Group II, Applicant is required to elect a single nucleic acid sequence (i.e. gene) of a seed specific gene from the following:

- P : a gene influencing germ tendency
- Q : a gene influencing germ dormancy
- R : a gene influencing pathogen resistance
- S : SEQ ID NO: 2
- T : SEQ ID NO: 4

Art Unit: 1638

Upon election of Group III, Applicant is required to elect a single nucleic acid sequence (i.e. gene) of the general metabolism from the following:

U : ADP glucose synthetase  
V : starch synthase  
W : ADP glucose pyrophosphorylase  
X : yeast invertase

Upon election of Group IV, Applicant is required to elect a single nucleic acid sequence (i.e. gene) of a of a gene of the general metabolism from the following:

Y : SEQ ID NO: 2  
Z : SEQ ID NO: 4

This requirement is not to be construed as a requirement for an election of species, since each of the nucleic acid sequences is not a member of a single structurally and functionally related genus, but rather constitutes an independent and patentably distinct invention. Separate searches and considerations would be required for examination of each of the nucleic acid sequences.

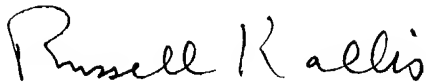
Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Kallis whose telephone number is (571) 272-0798. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink that reads "Russell Kallis". The signature is written in a cursive, flowing style.

Russell Kallis Ph.D.  
December 02, 2004